Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of	
Expanding Consumers' Video Navigation Choices	MB Docket No. 16-42
Commercial Availability of Navigation Devices	CS Docket No. 97-80

COMMENTS OF PUBLIC KNOWLEDGE

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I. Introduction and Summary

Last week, President Obama joined consumers, newspaper editorial boards, public interest groups, and potential competitors in supporting the FCC's plan to "unlock the box."[1] Subscribers are forced to rent cable and pay TV devices that create a multi-billion dollar drain on the economy, harm consumers, hold back technology, and limit the ability of content creators and programmers to reach viewers and make money.

By moving forward on its proposal to allow subscribers to access their pay TV subscriptions (this includes cable, satellite, and "telco" or fiber services like FiOS TV and Google Fiber—the technical term is multichannel video programming distributor, or "MVPD") on the devices and apps of their choice, the Commission can save viewers money while ensuring they can choose from better and more modern alternatives. By fulfilling its statutory mandate to promote a video device market where viewers can choose to use interfaces, apps, and devices from companies unaffiliated with MVPDs—that is, not just from third parties, but from technologists and innovators who have not cut deals with, or cleared their business models with the MVPDs they are proposing to compete with—the Commission will unleash innovation, competition, and cost savings on a stagnant marketplace.

Giving consumers the ability to access MVPD video programming as easily as they can access online video will not only benefit viewers and video competition, but content creators themselves. For too many programmers, large MVPDs stand in between them and their audience. They can agree to cable carriage on terms that can be ruinous financially and onerous in terms of allowing them to explore new business models, or they can try to bypass the MVPD business

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[1] Jason Furman and Jeffrey Zients, *Thinking Outside the Cable Box: How More Competition Gets You a Better Deal*, White House Blog (April 15, 2016), https://www.whitehouse.gov/blog/2016/04/15/ending-rotary-rental-phones-thinking-outside-cable-box.

model and distribute content online, at the cost of cutting themselves off from the millions of viewers for whom the cable set-top box is the primary interface to video. Online video distribution creates new ways for creators to reach a mass audience and, by providing them with real alternatives, gives them leverage against dominant distributors. This will benefit viewers by giving them access to more independent, diverse, and quality programming.

Bringing this about requires that the Commission adopt rules that ensure that major MVPDs aren't the only ones who can determine the future of subscription video. The Commission's proposal does just that—it allows for the creators of new apps and devices to market nationwide products based on open standards, instead of cutting MVPD-by-MVPD deals. This provides them the scale they need to make competition financially viable, and opens the market to smaller companies and new entrants to the video space entirely. It also ensures that customers can use the same apps and equipment from one MVPD to another, reducing switching costs and increasing video competition.

The Commission's proposal also ensures that competitors have the technical flexibility they need to offer products that are meaningfully differentiated from each other, both in terms of cost and features—a basic requirement for a competitive market. IP-based communication and security protocols, for instance, are a better and cheaper way for devices to talk to each other and access programming than the CableCARD approach of embedding specific hardware in each device. And allowing competitive apps and devices to display programming in unique user interfaces allows competitors to provide their customers with the kinds of innovation that have been lacking in the MVPD space for too long—unified search across services, taste-based recommendations, voice control, and features and experiences that have not even been invented yet. The Commission’s proposal does all this while ensuring viewer privacy, content integrity, accessibility, and other matters, and also reducing the likelihood of online infringement.

At the same time, the Commission’s current proposal provides MVPDs with more flexibility than exists under CableCARD or proposals like AllVid, and does not disrupt any of their current business plans. Past Commission efforts have tended to involve single, set standards, which MVPDs themselves would be required to use for their own device offerings (an approach known as “common reliance”). But today, the Commission found that the best approach would be to simply define the *functions* that an MPVD must support via open standards, without specifying how they must support them, and without requiring that MVPDs adopt any open standard at all for the devices and apps they will still be able to offer to their subscribers.

Opponents of the FCC’s proposal have often pointed to the various apps, devices, and experiences that MVPDs have been slowly rolling out as a reason for the FCC to reverse course. But the MVPD-provided solutions so far have, and necessarily must, fallen short of the vision of Section 629. The apps that MVPDs support now generally give viewers an incomplete and limited programming selection, offer a fragmented and often confusing user experience, and are available only on devices the MVPD has decided to support. New iterations of the MVPD walled garden will always fall short of what truly open competition can provide, and it is not clear why current MVPD-sponsored proposals will benefit consumers any more than past announcements, such as Tru2Way or OCAP. In 2008, the CEO of Comcast stated that “the age of the closed, proprietary set-top box is behind us."[2] Yet years later, the closed, proprietary set-top box is still very much with us—Comcast itself is deploying 40,000 new ones per day.[3]

That said, consumers should hope and demand that MVPDs continue to improve the offerings they make directly to viewers and in affiliation with consumer electronics companies and software platform vendors. The best way to ensure they do is through competition—in an open market, MVPDs will be able to see what works and what doesn't in the marketplace and adjust their own offerings accordingly.

These comments will describe why the path the Commission has charted provides the best way to benefit consumers while benefitting creators, bolstering competition in video distribution, and promoting the development and deployment of new video devices and apps, all while resting on a legally sound basis.

II. The Commission Has the Legal Authority to Promote App and Device Competition

A. Section 629 Unambiguously Directs the Commission to Adopt Rules to Promote Competitive Navigation Devices from Independent Providers

The Commission's legal basis for promoting app and device competition is straightforward: Section 629 of the Communications Act (as amended) directs the FCC to

> **adopt regulations** to **assure** the commercial availability, to consumers of multichannel video programming and other services offered over multichannel video programming systems, of converter boxes, interactive communications equipment, and other equipment used by consumers to access multichannel video programming and other services offered over multichannel video programming systems, **from manufacturers, retailers, and other vendors not affiliated with any multichannel video programming distributor**.[4]

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[2] Rob Beschizza, Comcast CEO Roberts Pitches CES on 100 Mbps Cable and Project Infinity, Wired (Jan. 8, 2008), http://www.wired.com/2008/01/comcasts-robert
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[3] Jeff Baumgartner, Comcast Accelerates X1 Rollout, Multichannel News (Oct. 27, 2015), http://www.multichannel.com/news/content/comcast-accelerates-x1-rollout/394854.

[4] 47 U.S.C. § 549 (emphasis added).

This is perhaps one of the most straightforward examples of an unambiguous legal directive in the telecommunications practice.[5] Congress has told the FCC what to do and how to do it. Congress has already settled the basic policy question of whether the FCC should act and what its goals should be. The Commission's only responsibility is to carry out Congress' directive, using its expert judgment and the record before it.

The emphasized areas of text merit further elaboration. First, the Commission is told to "adopt regulations." Inaction and further delay are therefore not permissible. Second, the Commission is told to "assure" the availability of competitive navigation solutions. This means that its regulations must be effective. The Commission must therefore adopt the reforms actual competitors—including those with experience in CableCARD—have indicated are necessary to assure a competitive market, such as competitive user interfaces and cross-MVPD standardization. Finally, competitive navigation solutions **must** be available from vendors "not affiliated with any multichannel video programming distributor." While these comments will describe how MVPD-provided solutions generally fall short from a consumer perspective and in other ways, it is also the case that, as a legal matter, they are immaterial. The Commission's statutory mandate is not fulfilled unless there is competition from unaffiliated, independent providers. Apps or devices (or promises of them) that are created by, or in partnership with, MVPDs do not fulfill this goal.

The Commission's authority extends to promoting competition from software-based interfaces ("apps") as well as from hardware solutions, and it has explained how, consistent with

[5] This legal mandate is framed as a directive to the Commission to use its existing authority, *e.g.*, under Section 624A of the Communications Act as amended, 47 U.S.C. § 544a. Section 629 demonstrates, however, that the Commission's authority is sufficient to carry out the directive Congress gave it.

past agency practice and norms of statutory interpretation, the term "equipment" includes apps.[6] There are additional reasons to read the statute to apply to app competition, as well. Simply put, apps run on hardware. An app can change the functionality of a general-purpose computing device, like an iPad, giving it the ability "to access multichannel video programming and other services offered over multichannel video programming systems," where otherwise it would not have that ability. In effect, an app turns a device *into* a competitive navigation device while it is being run. Thus, even if one were to interpret Section 629 as directly applying only to hardware devices—and there is no reason to do so—an unaffiliated app running on an unaffiliated piece of hardware is a "competitive navigation device" in the same sense as a TiVo.

Additionally, Section 629 does not stand by itself as a legal directive or as a signal of Congressional intent. In the 1992 Cable Act, for instance, Congress recognized that new "cable scrambling, encoding, or encryption technologies and devices" could "disable[] or inhibit[]"[7] the third-party video equipment that consumers purchased from the competitive market to watch, record, and interact with subscription programming. It found that "if these problems are allowed to persist, consumers will be less likely to purchase, and electronics equipment manufacturers will be less likely to develop, manufacture, or offer for sale, television receivers and video cassette recorders with new and innovative features and functions,"[8] and therefore directed the Commission to adopt regulations that enact "narrow technical standards that mandate a minimum degree of common design and operation, leaving all features, functions, protocols, and other

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[6] NPRM at 21-22.

[7] Cable Television Consumer Protection and Competition Act of 1992, PL 102–385, 106 Stat 1460, Sec. 17 ("Consumer Electronics Equipment Compatibility"), codified at 47 USC 544a(a)(1).

[8] 47 USC 544a(a)(2).

product and service options for selection through open competition in the market,"[9] while considering "the need to maximize open competition in the market for all features, functions, protocols, and other product and service options of converter boxes and other cable converters unrelated to the descrambling or decryption of cable television signals."[10]

Furthermore, Congress effectively re-authorized Section 629 in the STELA Reauthorization Act of 2014,which directed the Commission to "establish a working group of technical experts representing a wide range of stakeholders, to identify, report, and recommend performance objectives, technical capabilities, and technical standards of a not unduly burdensome, uniform, and technology- and platform-neutral software-based downloadable security system designed to promote the competitive availability of navigation devices **in furtherance of section 629** of the Communications Act of 1934 (47 U.S.C. 549)."[11] In the current proceeding, the Commission is acting consistently with a recommendation of the technical committee it established to carry out this law, and to carry out the underlying policies of Section 629. The last Congressional word on this matter is a directive to the Commission to proceed with its work in promoting a competitive market for unaffiliated navigation devices.

Finally, it bears repeating in this context that there are even deeper roots to the communications policies the 1992, 1996, and 2014 Acts addressed. With its *Carterfone* decision in 1968,[12] the Commission remedied problems in a market analogous in many ways to the video devices market today. Prior to *Carterfone*, most telephones were rented from AT&T for prices

[9] 47 USC § 544a(a)(4).

[10] 47 USC § 544a(c)(1)(A).

[11] Pub. L. No. 113-200, 128 Stat. 2059, § 106 (emphasis added).

[12] *Use of the Carterfone Device in Message Toll Telephone Service*, 13 FCC 2d 420 (1968).

substantially higher than consumers would have paid in a competitive market.[13] The telephones they rented changed little from year to year, decade to decade. The innovation let loose by *Carterfone* set the stage for the Internet by allowing computers to access the telephone network via modems. But more immediately, it allowed a competitive market in telephone equipment to develop, with telephones of all shapes and sizes available at every price point, and allowed previously rare devices like answering machines to become commonplace. On other occasions, the Commission has found that promoting interconnection standards benefits consumers. The Commission's Part 68 regulations, which define the physical interface for attaching equipment to a telephone network, were essential in realizing the policy goals behind *Carterfone*. By ensuring that ISPs had access to essential telecommunications facilities in the *Computer Proceedings*, the Commission laid the groundwork for the ISP boom of the 1990s. Additionally, in the 1970s, the Commission laid the regulatory groundwork for the emergence of competitive markets in telecommunications services such as long distance. In each of these cases, the Commission promoted competition by adopting frameworks expressly designed to foster it.

The Commission has always recognized the similarity between *Carterfone* and Section 629. In the 1998 order, the Commission wrote that

> Just as the *Carterfone* decision resulted in the availability to the consumer of an expanding series of features and functions related to the use of the telephone, we believe that Section 629 is intended to result in the widest possible variety of navigation devices being commercially available to the consumer.[14]

It later elaborated that

[13] For one example of how uneconomic it can be to rent rather than own telecommunications equipment, *see* USA TODAY, *Woman Paid Thousands to Rent Rotary Phone*, (Sept. 14, 2006), http://www.usatoday.com/news/offbeat/2006-09-14-phone_x.htm.

[14] Implementation of Section 304 of the Telecommunications Act of 1996, Report & Order, 13 FCC Rcd. 14775, ¶ 26 (1998).

> The competitive market for consumer equipment in the telephone context provides the model of a market we have sought to emulate in this proceeding. Previously, consumers leased telephones from their service provider and no marketplace existed for those wishing to purchase their own phone.… As a result of *Carterfone* … the choice of features and functions incorporated into a telephone has increased substantially, while the cost of equipment has decreased.[15]

Of course, the Commission was not the first to see the analogy between the creation of a competitive market in set-top boxes and *Carterfone*. The same analogy was noted by then-Representative Markey,[16] Section 629's chief advocate in the House, and by Representative Bliley[17] when he introduced the earlier Competitive Consumer Electronics Availability Act. The *Carterfone* precedent is clear: when the Commission opens the door to a competitive market in devices that attach to a communications network, consumers benefit.

The Commission should therefore act under its statutory authority, and consistent with past practice and Congressional directive, to promote a competitive market for devices a subscriber can use to access her MVPD programming.

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[15] *Id.* at ¶ 11.

[16] Representative Markey noted that the provision would

> [H]elp to replicate for the interactive communications equipment market the success that manufacturers of customer premises equipment (CPE) have had in creating and selling all sorts of new phones, faxes, and other equipment subsequent to the implementation of rules unbundling CPE from common carrier networks.

Comments of Representative Markey, 142 Cong. Rec. H1170 (1996).

[17] Representative Bliley observed that under his bill,

> Commission regulations will assure that converter boxes, interactive communications devices, and other customer premises equipment [would] be available on a competitive basis from manufacturers, retailers, and other vendors who are not affiliated with the operators of telecommunications systems, as is the case in our telephone system today.

Comments of Representative Bliley, 141 CONG. REC. E635 (1995).

B. Generalized and Baseless References to Copyright, Contracts, or the First Amendment Do Not Overcome a Clear Statutory Directive

Despite the wishes of opponents, there are no legal trump cards that somehow nullify the Commission's clear statutory mandate to promote device and app competition. For example, the MPAA has maintained that competitive navigation solutions "could interfere with contracts, upset copyright law, and run afoul of the First and Fifth Amendments to the U.S. Constitution."[18] As an initial matter, the FCC's current proposal is simply a successor to CableCARD that gives competitors the same rights and abilities they enjoyed under that system. Because CableCARD has withstood repeated legal challenges[19] there is every reason to expect the FCC's new proposal would, as well.

1. The Interests of Copyright Holders Are Aligned with the Commission's Proposal

As discussed in these comments, the Commission's proposal to promote new ways for content creators to reach viewers will benefit the creative community, particularly diverse and independent programmers who currently have no place in the cable bundle, or who have to give up flexibility to be included.

Nevertheless, opponents of the Commission's proposal have attempted to enlist copyright law as a grounds for the Commission to ignore its Congressional mandate. But these efforts fail. First, of course, both the Copyright Act and Section 629 were enacted by Congress. It would be unorthodox, to say the least, to conclude that copyright law takes away Congress's power to enact communications law, or the FCC's ability to enforce it. Many statutes and Commission

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[18] Comments of Motion Picture Association of America in MB Docket No. 15-64 (Oct. 8, 2015), http://apps.fcc.gov/ecfs/document/view?id=60001328337.

[19] *Comcast Corp. v. FCC*, 526 F. 3d 763 (DC Cir. 2008) ("Petitioners, for the third time, challenge the FCC's policy regarding set-top converter boxes. We again deny their petition for review."); *Charter Communications v. FCC*, 460 F.3d 31 (DC Cir. 2006); *General Instrument Corp. v. FCC*, 213 F.3d 724 (DC Cir. 2000).

policies, such as program access, must-carry, program carriage, and retransmission consent implicate copyrighted content in some way. Just as the invocation of the concept of copyright is not enough to abrogate these and many other long-standing rules and policies, neither is "copyright" a grounds for ignoring Section 629 of the Communications Act.

But more fundamentally it is not necessary to resolve any purported conflicts between Section 629 and copyright, because none exist. The Commission cannot, and is not proposing to, limit or otherwise condition any of a copyright holder's exclusive rights under section 106 of the Copyright Act. After the Commission's proposal is in effect, as today, copyright holders will retain the exclusive right to authorize reproductions, distributions, performances of their works, and the preparation of derivative works based on them, subject to existing limitations and exceptions. Specifically, the FCC's efforts to promote app and device competition do not transfer any copyright interests to competitive app and device makers, nor do the specific functions of competitive apps and devices infringe on any section 106 rights.

As a basic matter, a competitive app or video device no more "performs" or "distributes"[20] (or even makes commercial use of) the video programming it displays than a television set does. An FM radio manufacturer does not need a license from ASCAP or BMI, and the maker of a web browser or laptop computer does not need a license from Yahoo or Buzzfeed. Similarly, the manufacturer of a video display device or app does not need a license to enable

[20] Even to the extent that devices create transitory, *de minimis*, or other (e.g. fair use) copies of programming in the course of their operation, the case law straightforwardly indicates that viewers, not the device or the device manufacturers, are the "volitional actors" in such circumstances. *See, e.g.*, *Cartoon Network v. CSC Holdings*, 536 F. 3d 121, 131 (2d Cir. 2008) ("it seems clear — and we know of no case holding otherwise — that the operator of the VCR, the person who actually presses the button to make the recording, supplies the necessary element of volition, not the person who manufactures, maintains, or, if distinct from the operator, owns the machine."); *Fox Broadcasting v. DISH*, 905 F. Supp. 2d 1088 (2012); *Religious Tech. Center v. Netcom On-line Comm.*, 907 F. Supp. 1361, 1370, 1381-82 (ND Cal. 1995); *Fox Broadcasting v. DISH*, 905 F. Supp. 2d 1088 (2012).

viewers to access their lawful and paid-for MVPD subscriptions. Distributors such as MVPDs who engage in public performance, not end-user devices like television sets, need licenses. To stretch copyright law to give major content studios and MVPDs end-to-end control over user behavior, in a way that does not exist in other contexts, is contrary to the traditional contours of copyright and harmful economically, from the perspective of technological innovation, and for consumers. What's more, it is difficult to see how end-to-end control over the customer experience, which was never part of CableCARD, could suddenly become a necessary component of implementing section 629.

The Commission has proposed a set of policies that will protect and promote the legitimate copyright interests of creators, and we strongly support such protections. As discussed later in these comments, the Commission should be confident that promoting app and device competition will benefit the entire content ecosystem.

2. Private Contracts Do Not Supersede Statutes or FCC Regulations

The Commission's proposal does not change copyright law, but it does change marketplace facts. A hypothetical programmer may want to grant a license to an MVPD only under the condition that the MVPD not support competitive devices. Such conditions, of course, would be legally ineffective. But this does not limit the programmer's rights under copyright. Copyright law has never given copyright holders the power to circumvent other areas of law.

Similarly, MVPD arguments that complying with FCC rules would put them at legal risk for breach of contract should be disregarded. First year law students learn that there can be no liability for breach of an impossible, impracticable, or unlawful contract or contractual condition. A private agreement negotiated between two parties does not take precedence over Congress or the FCC.

3. The Commission's Proposal Will Further the First Amendment Interests of Programmers

Similarly, the First Amendment does not limit FCC or Congressional authority in this area in any way that opponents suggest. Indeed, as in the case of copyright or contract-based arguments, First Amendment arguments in this area tend to "prove too much": If the First Amendment prohibited Congress and the FCC from promoting a competitive market for video navigation devices, it would also prohibit much of existing media policy. This may be a desirable scenario for ideological opponents of media regulation, but it is not an interpretation of the First Amendment likely to find much traction with neutral observers, or the courts.

Far from being in conflict, the Commission's proposal will further the speech interests of programmers and any purported speech interests of MVPDs by increasing the ways in which viewers can access their content. A programmer is better able to express itself when viewers have more, not fewer, ways they can access programming.

a) As Applied to Programmers

The FCC's proposal for competitive apps and devices does not affect the content of programming, prevent programmers from speaking, or force them to endorse messages they do not agree with. Simply put, giving viewers options as to the devices and apps they use to watch programming does not implicate the First Amendment interests of programmers, because the First Amendment has never given speakers the right to assert control over who can listen. Indeed, the speech interests of programmers are furthered when viewers can more easily access programming.

b) As Applied to MVPDs

The FCC's proposal does not take away any rights MVPDs now have in the basic sense that they will retain the ability to create their own proprietary apps and devices, and to structure their programming bundles just as they do today. To the extent they have speech interests in those outlets, they will continue to be able to exploit them.

Nor does requiring that MVPDs allow viewers to use the apps and devices of their choice burden any speech rights they might have. While some courts have held that MVPDs have limited speech rights in the selection of programs and channels they carry,[21] no court has ever held that this extends to giving them control over the manner in which viewers watch programming. But as with programmers, to the extent that the FCC's proposal increases the number of ways viewers can access the MVPD bundle of programming, it furthers any speech interests they may have.

C. The Commission's Effort to Promote Competitive Apps and Devices is Well-Timed

The Commission should act now. Of course, the imperative for the FCC to implement the law, and the benefits of competition are as clear today as they were in 1996. But the technology and business models that exist today are more likely than ever to deliver clear and tangible benefits to consumers.

As the FCC recognized most clearly in the National Broadband Plan,[22] open and competitive video devices will benefit broadband by making it easier for viewers to watch online video right alongside their MVPD programming. There is clear enough benefit in a competitive market of MVPD-only devices. But this benefit is magnified when it also creates new competition in video delivery while boosting demand for new broadband build-out. This is a benefit of Section 629 that was not foreseen in 1996.

[21] *Turner Broadcasting System v. FCC*, 512 US 622, 641 (1994).

[22] Connecting America: The National Broadband Plan 49-52 (2010).

Additionally, the technology and ecosystem exists today for the Commission to adopt a superior approach to the physical CableCARD model. In-home networking is ubiquitous via WiFi access points, and broadband deployment continues to rise. Video transport and security technologies exist to allow for easy communication between devices and networks. And consumer devices that are capable of supporting the standards likely to be deployed under the Commission's proposal—devices like tablets, connected game consoles smart TVs, and media streamers—are relatively commonplace.

Finally, the Commission's proposal has a sufficient, built-in roll-out approach that provides ample time for MVPD compliance. Thus, further delay is unwarranted. Additionally, the current round of comments and subsequent reply comments provide the Commission with the time it needs to consider the various policy issues that have been raised in this docket. Thus, to ensure maximum consumer benefit, the Commission must act quickly.

III. A Competitive Marketplace for Video Devices Will Benefit Consumers, Creators, and Video Distributors

A. A Competitive App and Device Market Will Save Consumers Money

Right now, consumers are getting ripped off.

Senators Markey and Blumenthal recently released a study that highlights the cost of the Commission's so-far incomplete implementation of Section 629 of the Communications Act. They found that about 99% of customers rent devices from their operator rather than purchasing them on the commercial market, and that the average household pays more than $231 per year on device rental fees.

Meanwhile, consumers can outright buy similar devices (that cannot access MVPD content, but are broadly similar technologically) for significantly cheaper. Roku devices, for instance, start at $50, Amazon sells a Fire TV stick for $40 and an advanced device that supports

4K video for $100, and even a high-end device like the TiVo Roamio or Bolt, which has significant onboard storage space for recorded programs and which can record at least four programs simultaneously, starts at $200 (plus service), with a version that is not burdened by having to support CableCARD starting at $50 (plus service).

This adds up. An analysis of the set-top box market by the Consumer Federation of America, comparing the price of such devices in 1994 to their price today, when contrasted with the declining price in real terms of other consumer electronics, revealed that consumers are overpaying as much as $14 billion per year in unnecessary rental fees for obsolete devices.[23]

There is clearly an imbalance here. Two decades after Congress directed the FCC to create a competitive market for MVPD video devices, barely any such market exists. Meanwhile, openness and competition have driven the market for online video devices, tablet computers, smartphones, and other devices forward faster than most would have predicted possible. Broadly speaking, the MVPD market has proven itself more able to fend off "disruption" from new technologies and new competitors than has the print media or music industries, due, among other things, to how MVPDs control not only the programming their hopeful competitors need to access, but the very infrastructure (broadband) they must access to reach customers. The best way for the Commission to remedy this multi-billion dollar ripoff is to act now to promote a competitive market.

B. A Competitive App and Device Market Will Benefit Video Competition and Video Distributors

As the Commission has noted, allowing viewers to use the apps and devices of their choice will enable them to access online video alongside MVPD video. Making online video

[23] Letter from Consumer Federation of America and Public Knowledge to Marlene H. Dortch, Secretary, FCC, MB Docket No. 15-64 (Jan. 20, 2016), https://www.publicknowledge.org/documents/pk-and-mark-cooper-set-top-box-letter-to-fcc.

more accessible will benefit video competition in a number of ways—online video providers will be better able to provide alternatives to MVPD video services, and the increased accessibility of online video on open devices will enhance competition between online video providers themselves. This will benefit viewers, by giving them more choices at different price points and in variously-sized on-demand and linear bundles, while also giving creators more control over which distribution services to do business with.

But none of this needs to be a loss for MVPDs. Of course, MVPD services will improve simply as a result of increased competition. But viewers who have the ability to watch MVPD programming on the devices and with the apps of their choice may be more willing to become MVPD subscribers to begin with. For example, a survey of pay TV customers found that

> 51% of North American consumers planning to cancel or reduce their pay-TV subscriptions would maintain their monthly spend if service providers offered a unified interface for searching, discovering and watching both pay-TV and OTT content.[24]

In other words, competitive apps and devices themselves will represent an improvement over the current, siloed MVPD experience, to the benefit even of the MVPDs who disagree most loudly with the FCC's plan.

C. No MVPD on its Own Can Offer the Range of Choices and Supported Devices That a Competitive Market Can Provide

Some MVPDs have suggested that, in addition to providing their own proprietary devices, they will support "apps" on various other devices that could allow users to access some MVPD programming.[25] But for an MVPD to truly support a wide array of consumer devices

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[24] Brett Sappington, *Cord Cutting? 'Fraid So*, Light Reading (Oct. 7, 2015), http://www.lightreading.com/video/ott/cord-cutting-fraid-so/a/d-id/718597

[25] Chris Morran, *3 Reasons Comcast's Samsung App Is Not The Answer To Set-Top Box Reform*, Consumerist (April 21, 2016), https://consumerist.com/2016/04/21/3-reasons-comcasts-samsung-app-is-not-the-answer-to-set-top-box-reform.

would be a substantial, and likely infeasible undertaking. No MVPD to date has created apps for all the platforms and devices that consumers own and use. Smart TVs, game consoles, streaming devices, Blu-Ray players, and other devices may each support a different hardware architecture and software platform, necessitating specialized development for each. Even phones, PCs, and tablets run on various operating systems and support different methods for installing apps, including but not limited to FireOS, the Amazon app store, iOS, the Apple app store, OS X, the Mac App Store, Android, the Google Play Store, Tizen, the Tizen store, Windows, the Windows store, Linux, the Ubuntu Software Center, Debian (apt) repositories, Red Hat (rpm) repositories, as well as many specialized or embedded systems. The development and support costs of supporting all of the hardware and software platforms users might have in their homes would be formidable.

Thus it is not surprising that MVPD app support has tended to favor established, dominant platforms, such as those from Apple and Google—and even then, partially. For example, Charter will not authenticate certain apps for the Nvidia Shield,[26] an Android device, even though it will authenticate apps for other Android devices. The only difference between the Nvidia Shield and a typical Android phone is that the Nvidia device is designed to be attached to a TV. Nor is the phenomenon of MVPDs refusing to authenticate TV-connected apps unique to Charter. Comcast would not authenticate the March Madness app for Apple TV or other TV-connected devices, for instance, even though it authenticated it for mobile devices,[27] and it will

[26] Letter from NVIDIA to Marlene H. Dortch, Secretary, FCC, MB Docket No. 15-149 (Feb. 17, 2016), http://apps.fcc.gov/ecfs/document/view;NEWECFSSESSION=7WGxWL5TFvFrHBFRqLYdPlDQ27xLZqQGchT3h1RHtJhr26v8WpCG!-22619469!1749169674?id=60001491536.

[27] Comcast Help and Support Forum, Post by "ComcastAndrew" (who is indicated as "Official Employee"), March Madness Live Web and Mobile Apps - Now Available (March 13, 2016), http://forums.xfinity.com/t5/Channels-and-Programming/March-Madness-Live-Web-and-

not authenticate the just-launched app from Starz.[28] Even when MVPDs do support various platforms they often drop support for them, leaving their customers in the lurch.[29] The world under the "MVPD-provided app" approach is therefore far from truly open and competitive.

By contrast, a competitive market based on open standards removes from MVPDs the burden of supporting a diverse and ever-changing array of software platforms and devices. Instead, each app or device would itself undertake the development and licensing costs necessary to ensure their products can be used by viewers to access their MVPD subscriptions. This approach more properly aligns incentives and costs and is more likely to result in a competitive, contestable market.

D. A Competitive Device Market Would Reduce the Number of Devices a Consumer Needs to Access Video Programming

Today, nearly all MVPD subscribers use dedicated hardware devices attached to their TVs to access their MVPD subscriptions: the set-top box. But this is not a technological necessity—simply a result of the leased, locked-down box business model that most MVPDs have embraced. The FCC's proposal allows subscribers to move past this into a "no-box" world.

Mobile-Apps-Now-Available/td-p/2720564 ("Please note that Comcast will not be supporting any authentication on Apple TV, Roku, Amazon Fire TV or Chromecast devices.").

[28] Kent Gibbons, *Comcast Won't Authenticate Subs for New Starz App*, Multichanel News (Apr. 20, 2016), http://www.multichannel.com/news/cable-operators/comcast-wont-authenticate-subs-new-starz-app/404340.

[29] *See* Jeff Baumgartner, *AT&T U-verse TV To Drop Support For Xbox 360 on December 31*, Multichannel News, Nov. 26, 2013, http://www.multichannel.com/news/content/att-u-verse-tv-drop-support-xbox-360-december-31/356856; Richard Lawler, *Next month Comcast will turn off the Xbox 360 app Netflix hated*, Engadget, Aug. 17, 2015, http://www.engadget.com/2015/08/17/comcast-will-turn-off-its-xbox-360-app-september-1st/; Jeff Baumgartner, *Dish Stops Sales of 'Virtual Joey,'* Multichannel News, Oct. 2, 2015, http://www.multichannel.com/news/content/dish-stops-sales-virtual-joey/394246; Laura Northrup, *Verizon Ends FiOS Streaming Apps for Xbox and Smart TVs March 31*, Consumerist, March 21, 2016, https://consumerist.com/2016/03/21/verizon-ends-fios-streaming-apps-for-xbox-and-smart-tvs-march-31.

This saves consumers money, reduces energy consumption, and simply makes the experience of accessing video a simpler process with fewer devices, software, and hassles to manage.

Although the details of precisely what open standards MVPDs must support to allow for competition are left for cross-industry standards bodies to determine, most viable technological proposals involve using in-home IP networking of some kind. IP-based MVPDs could likely support such technologies directly from their networks without the need for specific consumer-premises equipment. But by using these technologies, even if a particular MVPD uses a different protocol than IP as its video delivery back-end (e.g., QAM), a *single* in-home authentication device (which could, like with Comcast's Stream TV, simply be the same device as an existing cable modem or WiFi router—that is, not requiring an extra device in the home at all) could make MVPD programming to any certified device or app within the home network.[30]

Thus, by leveraging modern, IP-based transport, authentication, and security technologies, the FCC's proposal as implemented by MVPDs would allow consumers to access their subscriptions directly on smart TVs, tablets, and other devices in the home without the need to attach them to specific set-top box hardware. It would also allow consumers to use TV-attached devices they may already have such as game consoles or digital media streamers to access their MVPD subscriptions. For example, a consumer might be able to use a device like an Apple TV both to watch online streaming content and access MVPD content, instead of needing to attach two different devices to their TVs and toggle between them. For example, a consumer might be able to use a device like an Apple TV to purchase programming, watch online

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[30] Additionally, it is worth noting that current-generation cable set-top boxes typically already provide network interfaces, including support for VidiPath, which is similar to technologies Public Knowledge has supported for third-party app and device compatibility. Thus, some MVPDs have a head start in supporting technologies similar to those they may support under the FCC's new requirements, as well as in supporting multi-use authentication devices.

streaming content, and access MVPD content, instead of needing to attach two or three different devices to their TVs and toggle between them.

The much-ballyhooed "app proposal" from the MVPD camp falls well short of the no-box, existing-box world the FCC's proposal enables. This is for several reasons. First, MVPD apps typically do not give viewers access to MVPD content at all—they instead provide viewers with access to a limited selection of some programs that are offered via the MVPD subscription, but over a broadband connection instead, often in video formats that are lower resolution than what is available via the MVPD connection proper. Viewers will still need an MVPD-provided box to watch their MVPD subscriptions. By contrast, the FCC's proposal allows customers to access *all* of their MVPD programming directly on competitive devices and with competitive apps.

Second, the MVPD proposals always leave MVPDs in control of the devices subscribers can use, as well as their experience while using them. As discussed elsewhere in this comment, the FCC's proposal allows for entrepreneurs and technologists to create new interfaces to content, and new ways for consumers to discover programming they may be interested in, and the MVPD proposal does not. This distinction is all-important. MVPDs' restrictive track record for supporting apps shows that consumers simply can't count on MVPDs to provide choices.

Additionally, not every device a consumer might want to use to access video will be open to user-installable apps. The MVPD proposal puts its thumb on the scale in favor of complex, multi-purpose devices against more streamlined, limited-purpose hardware. Also, under the MVPD approach, consumers can't predict exactly which devices an MVPD may choose to support. If an MVPD chooses not to develop (or authenticate) apps for a particular platform, a subscriber may have no choice but to continue using a rented set-top box. For example, the owner of a smart TV may not be able to count on MVPD support for that particular smart TV's software platform. Or it may be supported by one MVPD and not another—or an MVPD may support a platform one day and withdraw support the next. This provides no certainty that consumers will be able to use their equipment with a particular MVPD, or switch from one MVPD to another. But under the FCC proposal, the smart TV manufacturer need only build its devices to interoperate with open, industry standards. The manufacturer of a smart TV has a much greater incentive to ensure its customers can use their devices to access video, than a cable company has to support a particular smart TV's software platform.

Also under the FCC proposal, any developer, not just the device manufacturer, may be able to create a certified app for any given software platform. In general, in many scenarios, the MVPD app proposal provides no guarantee that a subscriber would be able to access her video subscription on any given device, and could in fact require that she multiply the number of total household devices merely to access a complete video package with modern features. The FCC's proposal, by contrast, does not require that subscribers rely on the good graces of a particular MVPD, but instead unleashes the forces of competition in ways that are more likely to give paying subscribers the ability to watch video where, when, and how they want to.

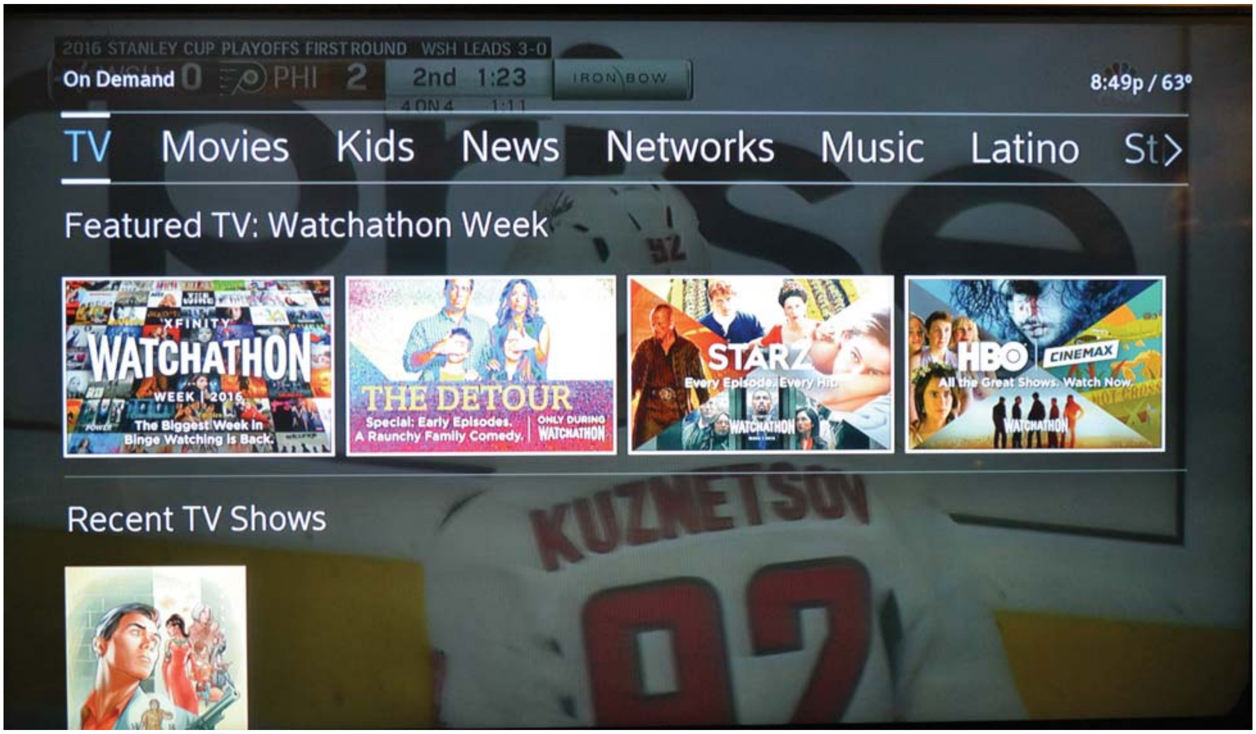
E. The Current MVPD Approach to Providing Viewers Access to Video Programming Can Be Cumbersome and Confusing

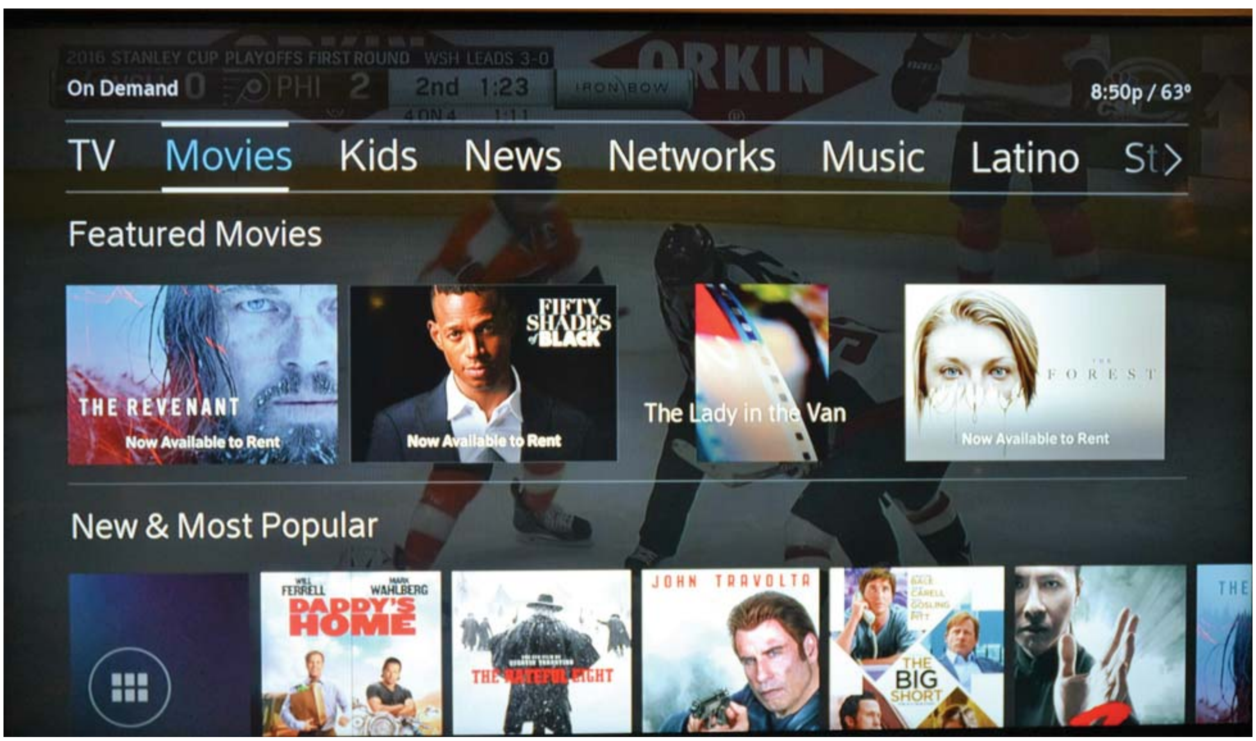
1. The Existing Cable Set Top Box is Inconvenient and Limiting

The existing MVPD set-top box is a closed system which offers consumers little if any choice in how they access the content they pay for. As a system completely under the control of the MVPD, consumers are offered little choice in hardware, being forced to use the MVPD's remote rather than a remote that came with their TV and needing to purchase additional hardware and switch between device inputs to be able to access content from other sources.

Consumer-friendly features such as multi-service search are only available at the discretion of the MVPD, rather than in response to consumer demand.

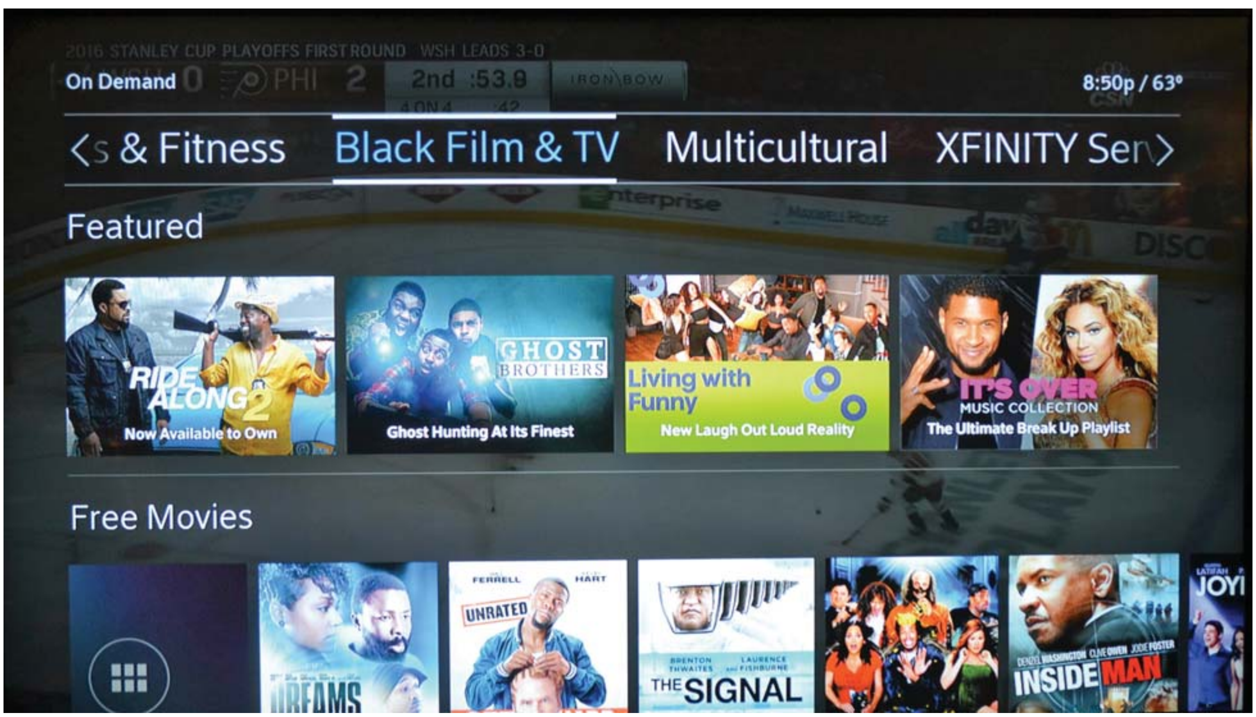
The closed system of the cable set top box also impacts discovery of new content. As the MVPD has complete control over the navigation experience, the extent to which any set-top box offers programming recommendations, or places particular on-demand or pay-per-view content in front of consumers, is entirely at the discretion of the MVPD. Those same MVPDs may themselves have incentives via program agreements or their own programming offerings, to place certain affiliated programming more prominently.





The default On Demand TV & Movies home screens available in the XFINITY X1. The MVPD retains total control over the content consumers are shown and have convenient access to, and programming is not displayed according to some negotiated channel line-up.

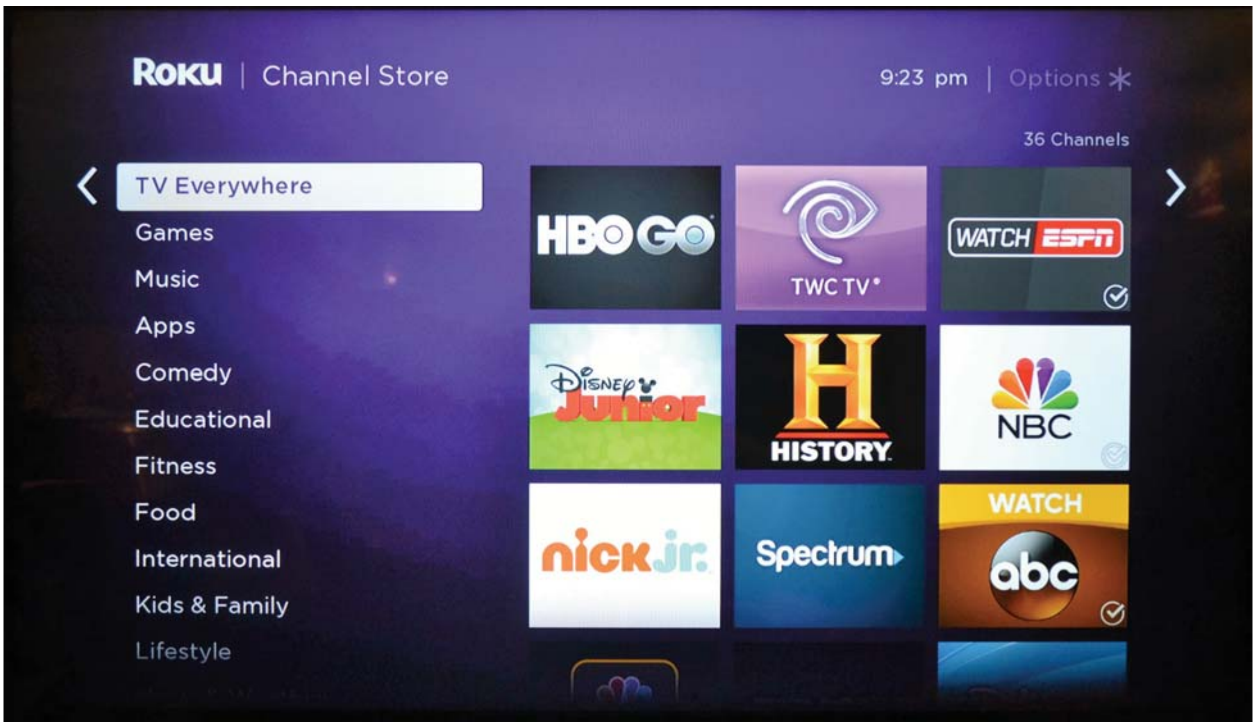
Particularly problematic is the impact this total MVPD control on the navigation experience has on access to minority and independent content. In the above image of the XFINITY On-Demand home screen, for example, note the categories in a bar near the top of the screen. Categories for minority and independently produced content, such as those categories labeled “Black Film & TV” and “Multicultural” are placed near the end of the category list, with only “XFINITY Services” further down the list, as demonstrated below. These categories may not be re-ordered or re-prioritized - the MVPD decides how accessible this minority-targeted content is. Were MVPD programming available through a competitive navigation interface, however, a consumer who wished to view this programming would have the choice to use an interface that was responsive to their needs and wishes, rather than restricted only to that interface, and that presentation of content, dictated by MVPDs.



On-demand content categorized as applicable to minority and multicultural audiences receives subpar placement, at the end of the category list next to technical support services, due to total MPVD control over which content is placed in front of consumers.

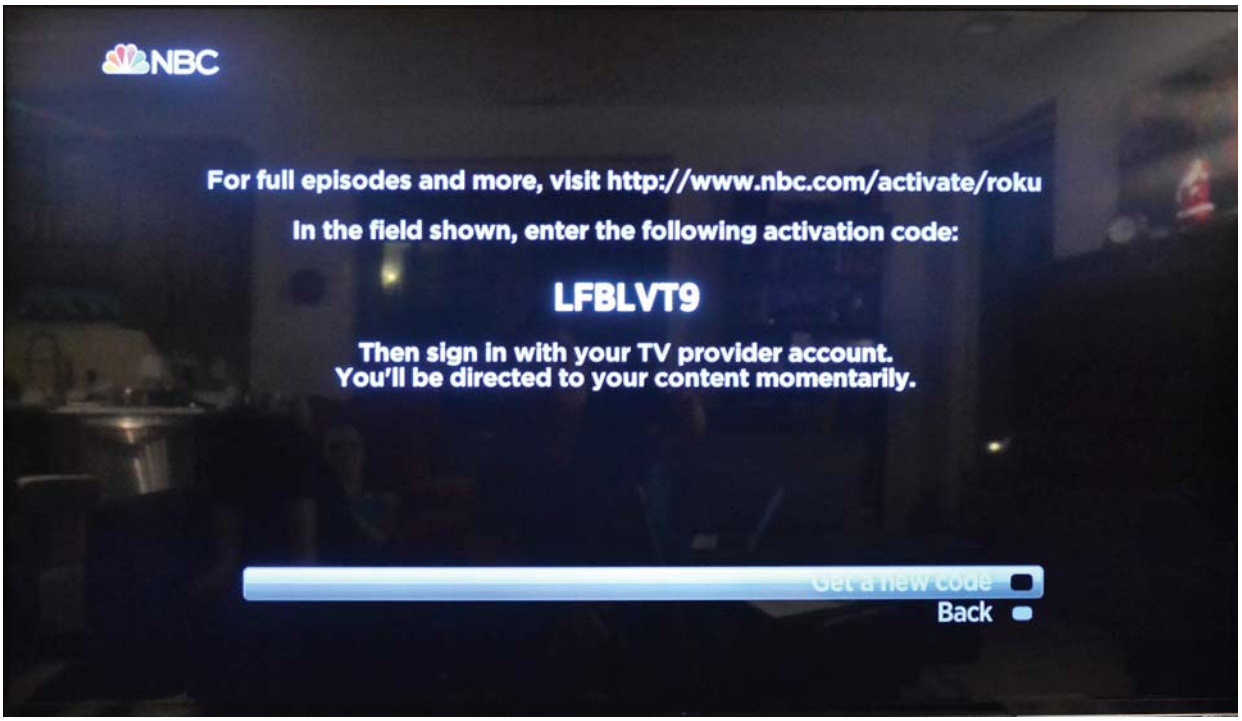
2. *What Little MVPD Support Exists for Third-Party Platforms, Fails to Provide Consumer-Friendly Experience to MVPD Content*

Despite the widespread proliferation of platforms such as Smart TVs and streaming media players which could support access to MVPD content, those MVPDs have failed to provide a consumer-friendly experience. A typical home might contain several such devices, any one of which could play host to MVPD content, were those providers to have any interest in making content accessible on devices consumers already own, yet which the MVPDs do not completely control. Few MVPD apps exist for these platforms, and what content is available to MVPD subscribers is mostly through programmer apps subject to an app-by-app authentication processes.

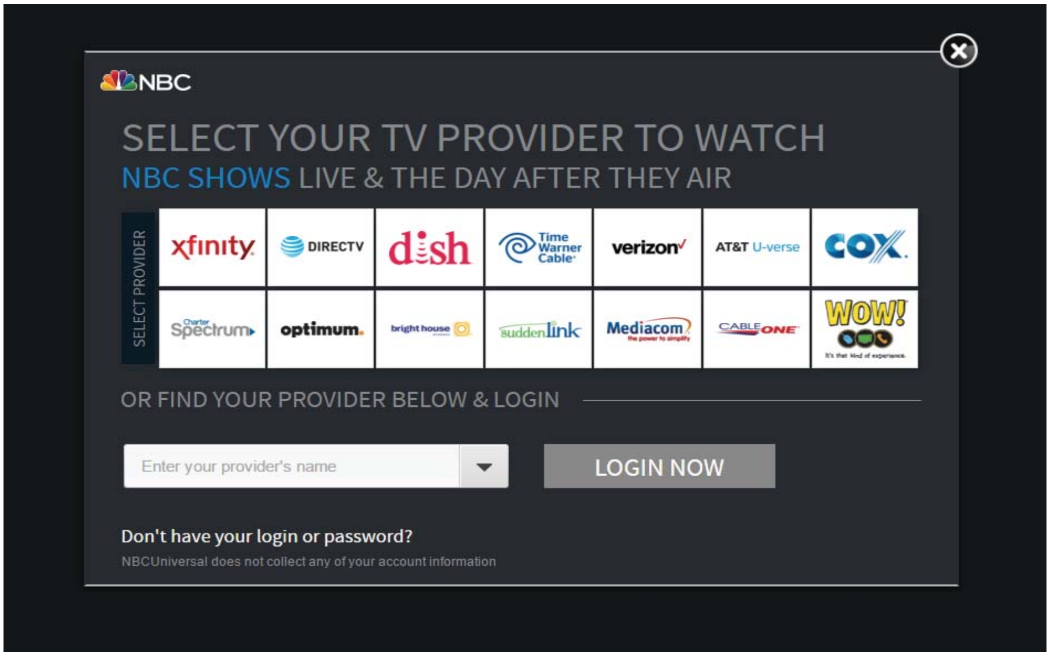


Roku's TV Everywhere category in its Channel Store. Note that despite more than 10 million units sold as of 2014, and industry-leading marketshare, MVPD apps are limited; and those that exist appear to result from direct deals rather than open innovation. Much of what content is available is from programmers themselves, not MVPDs—.and, due to the vagaries of MVPD authentication policies, those apps may not even be available to particular users.

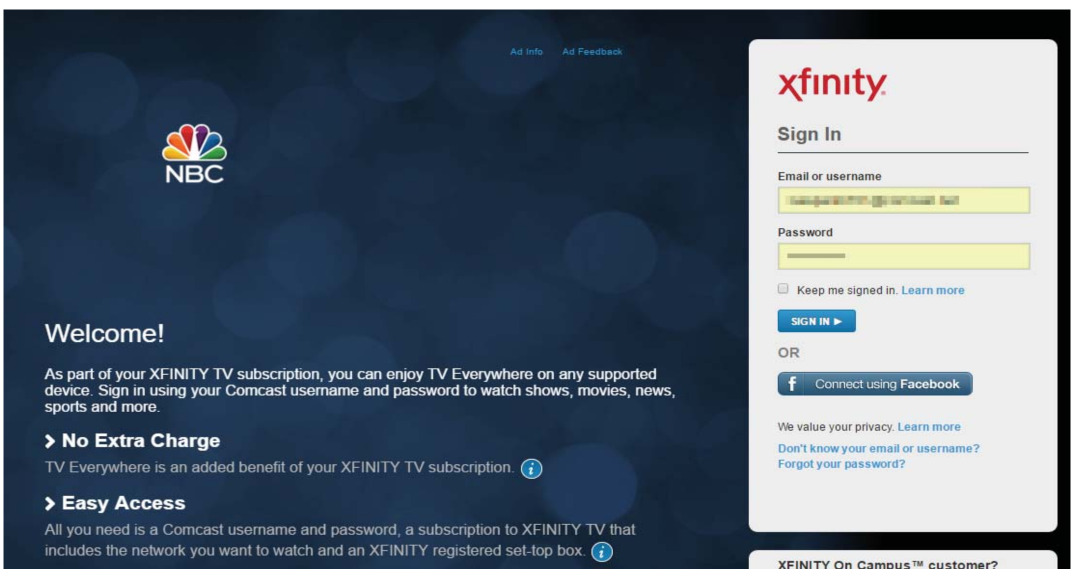
Accessing content of major broadcast networks via a Roku streaming box, for example, requires that a consumer's MVPD choose to authenticate that particular app on that particular device. Such authentication requires the use of a separate internet connection, and several steps that are repeated on a per-app basis—hardly a consumer-friendly mechanism for accessing content that consumer is already paying for, particularly when compared to the simple channel guide consumers are accustomed to using.



Accessing content paid for as part of an MPVD subscription through those apps MPVDs choose to authenticate, requires use of a multi-step authentication system for each app.



After entering the proffered code in a web browser, you must then select your MPVD (if they choose, at their sole discretion, to authenticate this particular app).



Finally, a consumer must log in through their MPVD account in order to authorize content. This multi-step process culminates in access only to a limited slate of content from one programmer, and must be repeated for each additional programmer or channel whose content a consumer might be interested in accessing from each third-party device.

MVPD mobile apps, meanwhile, are somewhat more prevalent, but still restrict consumers' ability to access content on any hardware they might like. The XFINITY TV Go

Android app, for example, offers a plethora of live content, but is notably devoid of any integration with common screen-casting hardware like Google's Chromecast, Apple AirPlay, or the Amazon Fire TV, which would allow a consumer to view that content on their TV. Once again, to view live content on a TV, the MVPD retains complete control, forcing users to rely on a rented, closed-ecosystem set top box.

Even where apps are available (such as those programmer apps which MPVDs choose to authenticate), live content is typically not available. The offerings are limited to on-demand content delayed days or more. Browsing for that content is far from customer-friendly, as well. Whereas the direct access to MVPD programming provided by the set-top box facilitates a channel guide well-suited to browsing, the vaunted app solutions are strictly siloed, forcing consumers to browse app-by-app for on-demand content, with little to no ability to search across apps or content sources.

A side-by-side comparison of set-top box content presentation (left) and app-based model content presentation (right). Note that in the app-based model, no information about actual programming is available until each app is entered individually; browsing for content is a function of browsing apps, rather than channels, and creates challenges for users in locating and accessing content which may interest them, as opposed to the simplicity to which consumers are accustomed. Total MVPD control over navigation of their content stream limits consumers' options for competitive navigation.

F. A Competitive App and Device Market Protects Consumer Privacy Better Than an MVPD Monopoly Model

The Commission can and should ensure that viewers have the same privacy protections when using competitive devices and apps, as they have when using devices or apps provided by their MVPD. In fact, by promoting competition, the Commission will bring about a marketplace that provides privacy-conscious viewers with even greater control of their private viewing data than they have under the monopoly cable/MVPD model of rented devices and proprietary apps.

Unfortunately, the privacy status quo for MVPD subscribers who do not have the option to choose different devices and apps is far from adequate. Most subscribers simply don't understand the extent to which their pay TV companies collect data about their viewing habits, monetize it in various way, and even target ads to individual households[31] in much the same way that online companies can serve up individually-targeted ads. Indeed, as many MVPDs are also broadband ISPs, these network operators are in a unique position to cross-reference data across different services.

The viewing data that cable companies can collect is comprehensive, and far more detailed than even self-reported Nielsen ratings data. As one analyst put it,

> In terms of the data cable operators get, it's not an estimate based on a sampling, the way Nielsen's is, but rather a full accounting of every set top box owner's behavior — what they watched, how long they watched, and whether they changed channels on the commercial break.[32]

The Wall Street Journal recently reported that "Comcast is seeking to harness viewing data from the set-top boxes and streaming apps used by its millions of cable-TV subscribers to create

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[31] Philip Elliott, *New Political TV Ads Can Target Individual Homes*, PBS (Feb. 17, 2014), http://www.pbs.org/newshour/rundown/new-political-tv-ads-can-target-individual-homes.

[32] *From DAI to programmatic: Why advanced advertising is giving pay-TV operators a reason to stay in the video biz*, Fierce Cable (Dec. 1, 2015), http://www.fiercecable.com/special-reports/dai-programmatic-why-advanced-advertising-giving-pay-tv-operators-reason-st.

products it can license to other companies."[33] According to a Comcast executive, "We do believe it's an unprecedented set of information."[34]

But the cable industry does not plan merely to monitor customer viewing habits, but to combine this information with other sources of data. In 2008, a joint venture between Comcast, Time Warner Cable, Cablevision, Charter, Cox, and Bright House Networks called Canoe Ventures laid bare the cable industry's designs on consumer data. According to one cable executive, combining data from proprietary cable set-top boxes with web usage data would offer cable companies a "360-degree view of customers," which he called "powerful stuff."[35] The granular level of cross-service information that cable companies in particular are uniquely positioned to collect would allow them, for instance, to use web usage information to present TV ads to particular households, or for a viewer's TV preferences to influence the ads she sees online, just as searching for a product in a search engine yields advertisements for that product on shopping websites .

Crucially, MVPDs do not collect viewer data merely for their own use, but license it widely to third parties. As the Wall Street Journal explained, "Companies like Simulmedia" that specialize in targeted TV advertising "emerged in the past few years once cable and satellite companies began licensing out their set-top box data."[36] Once third parties are given access to

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[33] Shalini Ramachandran and Suzanne Vranica, *Comcast Seeks To Harness Trove of TV Data*, Wall Street Journal (Oct. 20, 2015), http://www.wsj.com/articles/comcast-seeks-to-harness-trove-of-tv-data-1445333401.

[34] *Id.*

[35] Yinka Adegoke, *U.S. Cable TV Ad Plans May Face Privacy Concerns*, Reuters (Jun. 27, 2008), http://www.reuters.com/article/us-cable-idUSN2645318520080627.

[36] Steven Perlberg, *Targeted Ads? TV Can Do That Now Too*, Wall Street Journal (Nov. 20, 2014), http://www.wsj.com/articles/targeted-ads-tv-can-do-that-now-too-1416506504.

confidential viewing data, they can combine it with still more data sources to create an even more comprehensive look into a person's life. For example, one company has combined TV viewing data with information from retail loyalty cards.[37] Given the amount of third-party access to cable viewing data they provide, it is unclear exactly how cable companies are following cable privacy laws which prohibit cable providers from "disclos[ing] personally identifiable information concerning any subscriber."[38] While cable companies are permitted to disclose such information with viewer consent, it would be an interesting exercise for the Commission to examine the adequacy of the "**prior** written or electronic consent"[39] of subscribers and the adequacy of notices provided under other provisions of the statute. Indeed, given the importance cable operators have placed on privacy in this proceeding it may be opportune for the Commission to consider whether its overall approach to enforcing MVPD is adequate, and whether it should adopt more stringent rules than are in place today for all MVPDs—which, as a matter of parity, competitive apps and devices could follow, as well.

But even without addressing the endemic privacy issues that exist throughout the MVPD and cable industries, the Commission can at least ensure that competitive apps and devices more strictly follow the letter of the law than MVPDs themselves do, while adopting enforcement mechanisms designed to encourage compliance, disclosure, and customer choice.

First, competition alone can help provide more privacy-conscious alternatives for viewer. While the Commission must ensure a baseline of privacy protection that applies to all apps and devices, a competitive market will present consumers with a variety of different choices, some of

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[37] *Id.*

[38] 47 U.S.C. § 551(c).
[39] *Id* (emphasis added).

which may have stricter controls on the collection and use of viewing data, than MVPD customers have access to now.

Second, even apart from this competitive dynamic, the Commission should be cognizant of the various legal protections that already apply to competitive apps and devices. For instance, the Children's Online Privacy Protection Act and the Video Privacy Protection Act already apply to non-MVPDs. Other jurisdictions also impose requirements that, as a practical matter, many potential competitive companies must abide by. For instance, the California Online Privacy Protection Act and the European Data Privacy Directive inform how many companies design and run their products—a company that does business in California or Europe will often find it simpler to just design their products, and operate their business, according to the strictest legal standards.

Notably, the FTC already provides a measure of enforcement of privacy policies, regularly holding companies to account when they fail to live up to the promises contained in their privacy policies.[40] In order to access a viewer's subscription via an MVPD-supported open standard, a competitive app or device maker should be required to document in its privacy policy that it intends to act consistently with cable privacy rules regarding notice, the collection and disclosure of personally-identifiable information, and other matters.

But even with this backdrop, the Commission can specifically ensure that viewers using competitive apps and devices have the same or greater privacy protections as viewers using MVPD-supplied devices and app. It can do this by ensuring that MVPDs support competitive

[40] FTC, Enforcing Privacy Promises, https://www.ftc.gov/news-events/media-resources/protecting-consumer-privacy/enforcing-privacy-promises ("When companies tell consumers they will safeguard their personal information, the FTC can and does take law enforcement action to make sure that companies live up these promises.").

apps and devices for third-party compatibility that have privacy built-in. A "privacy by design" approach will create a technological and economic incentive for competitive devices to respect user privacy, in addition to a legal incentive. Simply put, a competitive app or device that does not obey privacy rules risks being shut off, and losing access to a viewer's video subscription. This is potentially very damaging in the marketplace, and creates a strong incentive for competitive apps and devices that access a subscriber's video subscription under the Commission's rules to be scrupulous in their compliance. No such incentive exists for MVPDs themselves.[41]

Specifically, while the Commission is not mandating that MVPDs support a particular open standard for third-party connectivity, it is defining certain functions an MVPD must perform. In addition to the basic "information flow" functionality that allows competitive devices and apps to function, compliance requirements for competitive device and app makers can help ensure customer privacy. Among these requirements, the Commission should require that competitive devices and apps function consistently with cable privacy rules.[42]

Contrary to some MVPD assertions, this does not mean that each MVPD is tasked with policing each competitive app or device maker and ensuring that they are in compliance. Rather, the standards or licensing that the MVPD elects to use itself will have a compliance mechanism for the attestation of privacy, just as it would for security or other requirements. If there were to be a problem, it could be addressed through established procedures (including, where necessary, neutral decision-makers), using techniques up to and including revoking a security key,

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[41] MVPDs, it must be noted, should not be given the ability to decline to support competitive devices based on their subjective assessments of their privacy compliance. Determinations of compliance should be made by neutral third parties or a government agency.

[42] *E.g.,* 47 US.C. § 551.

blacklisting, or other mechanisms that could prevent competitive apps and devices from accessing the MVPD information flows.

While the details, and the relevant adjudicators vary from implementation to implementation, there is ample precedent for the broad concept that technical measures, as well as legal enforcement, can be used as a means to ensure compliance. For example, the Advanced Access Content System (AACS) that is used for Blu-ray players "provides each individual playback device with its unique set of decryption keys...this enables licensors to revoke individual players by invalidating the decryption keys associated with the player...making the keys and player useless for decrypting new titles."[43] "Link protection" schemes like High-bandwidth digital content protection (HDCP) similarly have a "key-revocation list" that disables devices that are compromised or otherwise non-compliant.[44] In any case, the Commission need not ensure that the enforcement mechanisms that are deployed are precisely analogous to any existing model, provided that subscribers have the assurance that their privacy expectations are protected and enforceable, and that various parties including subscribers themselves can address issues of noncompliance.

The nexus of the Commission's legal authority to protect viewer privacy in competitive apps and devices is straightforward. Regardless of the scope of the Commission's direct authority over device makers in light of *American Library Association v. FCC*,[45] the Commission need only use its authority over MVPDs themselves in this matter. Just as it had the

[43] Xiao Zhang, A Survey of Digital Rights Management Technologies, http://www.cse.wustl.edu/~jain/cse571-11/ftp/drm.

[44] SUMIT GHOSH & ELLIOT TURRINI, CYBERCRIMES: A MULTIDISCIPLINARY ANALYSIS 90 (Springer Science & Business Media 2010).

[45] 406 F.3d 689 (DC Cir. 2005)

authority to require that cable companies support competitive devices via the CableCARD standard, it has the authority to require that MVPDs support competitive apps and devices via a new open standard. Enforceable compliance requirements can be part of the Commission's approach.

That being said, the Commission can explore other sources of authority to ensure that competitive apps and devices have parity when it comes to privacy protections. A competitive device may be viewed as part of a "cable system" under 47 U.S.C. § 522, for instance, and thus come under direct authority. Or the Commission could easily find it has ancillary jurisdiction under *United States v. Southwestern Cable*[46] and its progeny—surviving a challenge under *American Library* because competitive devices are engaged in communication by wire or radio while they are accessing MVPD programming, and under *Comcast v. FCC*[47] because the authority in question is clearly ancillary to existing MVPD privacy statutes.

Broadly, whatever particular basis of legal authority the Commission uses to protect subscriber privacy, and regardless of the specific implementation details, the Commission should ensure that competitive app and device makers follow the same privacy rules as MVPD-supplied apps and devices, that those rules are clear and enforceable, and that questions of compliance are resolved by a neutral decision-maker, and cannot be abused for anticompetitive ends. Overall, the Commission's approach should be guided by the principles of consumer choice and well-being, while maintaining competitive parity between first-party devices and competitive options.

[46] 392 U.S. 157, 178 (1968).

[47] 600 F. 3d 642 (DC Cir. 2010).

G. A Competitive App and Device Market is Necessary to Prevent the MVPD Experience from Becoming A 'Pay for Play' Model Where Only Favored Content is Presented to Consumers, and to Give Viewers Choice and Control Over the Ads They See

An MVPD device monopoly market gives MVPDs control at multiple choke points. In another docket, Public Knowledge and many programmers have described how dominant MVPDs use their power as distributors to extract onerous conditions from MVPDs, such as restrictions on online distribution and various forms of "most favored nation" clauses.[48] (Among the many benefits of a competitive device and app market will be to limit dominant MVPDs' power as "must be carried by" distributors by making online video more accessible to more viewers.) But MVPD control over the set-top box itself gives them the power to exert control over the programming market in ways that go beyond carriage and carriage conditions.

Put simply, control of the user interface is valuable for MVPDs because they can use that control for their own benefit—to promote some content and not other content, to sell preferred access to some programmers, to cross-promote their own non-video services, and to sell advertising space. By itself it is not surprising or even objectionable that control of the user interface can create these opportunities—assuming that viewers have choice. But it becomes troubling when a single user interface can impose itself on viewers, because this eliminates the ability of users to switch to devices that do things differently, and increases the effects on the programming and other markets. For example, a competitive device needs to work to present its customers with the best experience it can, or people won't buy it. But an MVPD monopoly

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[48] *See generally* Comments of Public Knowledge, *Promoting the Availability of Diverse and Independent Sources of Video*, MB Docket No. 16-41 (Mar. 31, 2016); Reply Comments of Public Knowledge, *Promoting the Availability of Diverse and Independent Sources of Video*, MB Docket No. 16-41 (Apr. 18, 2016), *available at* https://www.publicknowledge.org/documents/public-knowledge-video-programming-noi-reply-comments.

device does not face these competitive forces, meaning that if it degrades the user experience it won't suffer in the marketplace.

Take, for instance, the issue of ads in the user interface—in a set-top box, these might appear in part of the UI (e.g., the top third of the program guide screen), as sponsored search results, and so on. In a competitive market, a viewer could decide to buy a device with ads, or one without ads, depending on her preference.[49] While certains kinds of unlawful advertising would not be permitted under the FCC's proposal,[50] a competitive device market will create new options for consumers—even creating new promotional opportunities for programmers. By contrast, in a monopoly MVPD market, consumers must simply accept the experience the MVPD chooses, and programmers are reliant on monopoly MVPDs for promotion and discovery.

Another example is the quality of content recommendations. Whether or not these are influenced by financial considerations, an open market will create competition between apps and devices over which can surface the most interesting and relevant programming. MVPD monopolies can get away with providing poor or serviceable recommendations, which can make diverse, independent, and niche MVPD programming harder for viewers to discover. A competitive market is more likely to provide viewers with user experiences that are tailored to

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[49] Analogously, for instance, Amazon sells both Kindle e-readers with "special offers" and without them. The ad-supported devices are $20 cheaper, and consumers can choose which device suits their preferences best.

[50] Some commenters have raised the technologically-unlikely scenario of competitive apps and devices removing ads from live programming and replacing them with new ads. *See, e.g.*, Doug Halonen, *Programmers Wary Of FCC's Set-Top Plan*, TVNewsCheck (March 30, 2016), http://www.tvnewscheck.com/article/93508/programmers-wary-of-fccs-settop-plan. But competitive apps and devices will be part of the MVPD ecosystem, with no incentive to undermine its financial underpinnings. More to the point, the FCC's proposal does not authorize competitive apps and devices to infringe copyright, and programmers presumably do not intend to imply that, absent FCC protection, such ad-replacing is legal.

allowing users to find and watch the programming they are most interested in, rather than programming the MVPD is interested in promoting.

Finally, MVPDs can and do use their control of the set-top box to leverage into new markets. Comcast, for instance, boasts that its Xfinity Home automation and security services is tightly integrated into its X1 set-top box.[51] In a competitive market where users can choose between different apps and devices that provide different integration with non-video services, this integration might be a competitive advantage and a reason to buy an X1 instead of a competing product, in the same way that only the MVPD itself can provide tight integration with other, non-MVPD communications services it provides (e.g., caller ID on the TV screen) . But, in the absence of competition, it is difficult to see it as other than a form of monopoly leveraging. To put it plainly, an MVPD's control over the set-top box gives it power to pick winners and losers among connected services, just as an ISP's control over the broadband connection gives it the power to interfere with the development of the open Internet. But the solution to this problem in the set-top box context is not some form of common carrier regulation, but rather competition. The competitive issues that MVPDs' control over the set-top box interface creates fade in importance in the face of a truly open and competitive market.

H. A Competitive App and Device Market is Necessary to Ensure That Consumers Have Access to Diverse Programming, Including Minority-Owned Content

The pay TV marketplace, and the cable TV industry in particular, have a poor track record when it comes to diversity. The Ralph J. Bunche Center for African American Studies at UCLA recently found that minorities are underrepresented by a factor of more than 2 to 1 among

[51] XFinity Home http://www.xfinity.com/home-security.html.

lead roles in cable, by a factor of nearly 5 to 1 among creators of cable shows,[52] and by a factor of greater than 4 to 1 among writers credited for cable scripted shows.[53] Byron Allen has recently drawn sharp attention to diversity in the cable industry—in particular the lack of carriage of any 100% African American-owned media. [54]

In the meantime, online distribution is a way for creators to reach viewers that has fewer obstacles. This is not to say that large online business necessarily have sterling diversity records. However, the online video marketplace allows minority-owned businesses and creators to bypass traditional gatekeepers—whether they are cable companies or large online platforms—and reach viewers directly. It is this ability that ensures that diverse and minority content—both content created by, owned by, and targeted to those audiences—can find online distribution a more friendly habitat than the traditional media ecosystem.

Of course, the online video ecosystem is *already* a more open environment for diverse content creators. But the FCC's proposal to open up the app and device market to innovators of all kind is likely to give it a boost, by making online video more easily accessible to viewers, right on their TVs, without the need for extra boxes, switching inputs, or the need to somehow output video from a laptop or mobile phone onto a TV. There are two simple propositions at the heart of this. First, that device and app makers who are not MVPDs themselves, or closely

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[52] Bunche Center, Hollywood Diversity Brief: Spotlight on Cable Television (2013), http://www.bunchecenter.ucla.edu/wp-content/uploads/2013/10/Hollywood-Diversity-Brief-Spotlight-10-2013.pdf.

[53] Bunche Center, 2016 Hollywood Diversity Report: Busine$$ as Usual?, http://www.bunchecenter.ucla.edu/wp-content/uploads/2016/02/2016-Hollywood-Diversity-Report-2-25-16.pdf.

[54] Press Release, Byron Allen Issues Official Statement on Comcast's Recently-Filed Opposition to the Entertainment Studios/NAAAOM Petition to the FCC, (April 6, 2016), http://www.fiercecable.com/press-releases/byron-allen-issues-official-statement-comcasts-recently-filed-opposition-en.

affiliated with them, are more likely to provide consumers with devices that can access and display online video alongside, and integrated with, MVPD video. While the FCC's proposal as a technical matter is about third-party devices and apps being able access to a subscriber's MVPD video subscription, it is likely that one of the major competitive advantages that competitive devices would have is giving viewers access to lawful content that is outside the MVPD ecosystem. The second proposition is that devices that can access and display a subscriber's MVPD subscription as well as online video will be popular with consumers. "Connected TV devices"—a broad category that includes streaming devices like the Apple TV, as well as connected Blu-Ray players, game consoles, and smart TVs—are already somewhat popular with consumers, with a US install base of around 46 million. [55] (Around half of these devices are smart TVs [56] —and it is important to remember that the FCC's proposal could make it so that consumers can access their MVPD subscriptions directly on such devices, instead of needing a separate TV-connected device at all.) But there are nearly 100 million MVPD subscribers in the United States,[57] and nearly 100% of them use an MVPD-provided device to

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[55] NDP Group, Half of U.S. Internet Homes Now Own A Connected TV Device, According to the NPD Group, (Aug. 26, 2015), https://www.npd.com/wps/portal/npd/us/news/press-releases/2015/half-of-us-internet-homes-now-own-a-connected-tv-device-according-to-the-npd-group.

[56] Strategy Analytics, Global Connected TV Device Vendor Share Q4 2015 (Mar. 1, 2016), https://www.strategyanalytics.com/access-services/devices/connected-home/consumer-electronics/market-data/report-detail/global-connected-tv-device-vendor-share-q4-2015. Additionally, many people purchase "Connected TV devices" without necessarily using them for online video. Many smart TVs are merely used as displays, many game consoles are used only for games, and so on.

[57] Leichtman Research, Major Pay-TV Providers Lost About 385,000 Subscribers in 2015 (March 10, 2016), http://www.leichtmanresearch.com/press/031016release.html.

access their subscriptions.[58] Allowing people to replace their MVPD-provided devices with these "Connected TV devices" increases the addressable market for such devices, which would be more appealing to those viewers who would rather not manage multiple devices just to watch video from different sources on one TV. Increasing the size of this market in turn creates more opportunities for online video creators to reach viewers.

Recognizing this, several content creators have spoken out about the opportunity the FCC's proposal provides. Robert L. Johnson, Founder of Black Entertainment Television and RLJ Entertainment noted that "The universal set-top box, unlike the leased cable box, opens up the unfettered opportunity for hundreds of minority programming aspirants who would like to create content success of their own, similar to what I enjoyed with BET." [59]

There is a flip-side to this story. When Stephen Davis came to cable with his idea for Black Education Network, he was turned away with the explanation that they already had diverse programming (by which they were referring to Mr. Johnson's Black Entertainment Network). It was only with the advent of over-the-top that he was actually able to realize his ideas and produce content that would reach consumers who craved it.

Eric Easter, chairman of the National Black Programming Consortium and CEO of BLQBOX, a streaming video service, similarly lauds the set-top market as a key component in connecting content creators with consumers. He wrote that "as long as the streaming world is

[58] Markey, Blumenthal Decry Lack of Choice, Competition in Pay-TV Video Box Marketplace, (July 20, 2015) http://www.markey.senate.gov/news/press-releases/markey-blumenthal-decry-lack-of-choice-competition-in-pay-tv-video-box-marketplace (99% of subscribers rent set-top boxes from their providers).

[59] Statement By Robert L. Johnson In Response To Comments Made By Alfred Liggins and Michael Powell On The Universal Set-Top Box , (Feb 16, 2016) http://www.prnewswire.com/news-releases/statement-by-robert-l-johnson-in-response-to-comments-made-by-alfred-liggins-and-michael-powell-on-the-universal-set-top-box-300221113.html.

locked out from the mainstream, many audiences will never find them and they will not succeed. Set-top box innovation would open that system," and that "an open system could mean that two guys in their basement could create a new set-top software model that makes it easier for anyone to launch a new channel, and out of those new channels, a few smart people are going to get it right —without a cable system deciding whether one is worthy to reach an audience." [60] Stephen Davis, who subsequently realized his Black Education Network with the advent of over-the-top avenues, stated that "On behalf of the dream that was the Black Education Network and on behalf of all of the other generations of quality programming strangled to demise by a merciless cable system, I enthusiastically applaud the FCC's efforts to unlock the box!" [61] And the Writers Guild of America, West, representing writers of motion pictures, television, radio, and Internet programming, supported the FCC's proposal by noting that "set-top box rules that increase competition and enable the integration of television programming and online video on one device will greatly expand consumer access to a wider range of diverse and independent programming and help level the playing field that has been dominated by too few companies for too long." [62]

Ruth Livier, an independent writer, testified to this same experience before Senate Judiciary, on behalf of both Writers Guild and National Hispanic Media Coalition, in 2014:

> I approached a traditional media executive for advice on how to get my show produced who said, "Who are you for anyone to produce your show?" Others asked, "Who's going

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[60] Eric Easter, FCC's Set-Top Box Proposal is Really About a Level Playing Field (Feb. 17, 2016), http://thehill.com/blogs/congress-blog/technology/269588-fccs-set-top-box-proposal-is-really-about-a-level-playing.

[61] Stephen Davis, FCC and the Set-Top Box (Feb. 18, 2016), http://thehill.com/blogs/congress-blog/technology/269778-fcc-and-the-set-top-box.

[62] WGAW Supports FCC Action on TV Set-Top Box Competition, (Jan. 27, 2016), http://www.wga.org/content/default.aspx?id=6141.

> to watch this?" Their comments were not based on my writing. They had not read a single word. Their immediate objections were based entirely on the concept of a Latina-driven show by someone with no track record."[63]

Several years later, through over-the-top markets, Ms. Livier, for example, was able to take her script and make magic happen on her own: "I took that old TV script and reconceived it into the award-winning web series, www.Ylse.net. Our global audience was even broader than expected."[64] Mr. Johnson summarizes it well: "If you have a good program idea, a little financing and access to the Internet, you can find your audience. But your audience can find you only if they have a modem or a set-top box or software that lets them know you are there and gives them access to your programs unconstrained by the network gatekeeper."[65]

There's no hiding from the fact that a more competitive, open market for video devices and apps and programming will shake things up. Some creators will find new audiences they never could have had access to. Some incumbents or programmers who have made their peace with the status quo will lose viewers and market share to energetic new entrants. But the FCC's proposal to foster an open and competitive market for video devices and apps that breaks down many of the barriers and middlemen that stand in the way of creators and viewers will benefit creators, especially diverse and minority creators, by providing viewers with access to a whole new menu of programming.

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[63] Ruth Livier, Testimony before Senate Judiciary Committee Hearing "Why Net Neutrality Matters: Protecting Consumers and Competition Through Meaningful Open Internet Rules" (Sept. 17, 2014), https://www.judiciary.senate.gov/download/09-17-14-livier-testimony.

[64] *Id*.

[65] Robert Johnson, Consumers Deserve Choice and Minority Programmers Deserve Opportunity (Jan. 22, 2016), http://thehill.com/blogs/congress-blog/technology/266653-consumers-deserve-choice-and-minority-programmers-deserve

I. A Competitive App and Device Market Will Benefit Copyright Holders and Better Respect the Principles of Copyright Than the Monopoly MVPD Model

1. In A Competitive Market Copyright Holders Will Retain the Ability to Contract with MVPDs, OVDs, and Device Makers for the Presentation and Promotion of Their Content

A competitive device market will not deprive content creators nor MVPDs of tools they can use to ensure that programming is displayed in certain ways.

First, of course, under the FCC's proposal, MVPDs will retain total control over their own apps and devices, just as they do today. While smaller and independent programmers may not have the leverage to require particular presentation from larger MVPDs today, any existing arrangements will be preserved after the implementation of the FCC's proposal.

Second, the Commission's proposal leaves the MVPD bundle intact, only allows paying customers to access MVPD video, and ensures that the money currently paid by MVPDs to programmers will continue to be paid. App and device competition touches none of these issues which are so central to the financial structure of the MVPD and programming industries.

Third, nothing about the FCC's proposal will prevent programmers from contracting directly with device or platform vendors over rights and kinds of access the FCC's proposal does not provide. For instance, while a device manufacturer should be able to access linear MVPD programming without needing to negotiate with major programmers, those programmers may be willing to give the device vendor access to things like certain over-the-top or non-MVPD content in exchange for particular concessions. But even apart from these two background considerations, copyright holders should be assured that the FCC's proposal for a competitive device and app market gives them tools over the control and the presentation of their programming to viewers. Public Knowledge strongly supports expanding content creators' rights in this way.

Apps and devices—including MVPD-designed devices—increasingly offer viewers flexible and varied ways to access and interact with content. While too many subscribers are still stuck with devices that are, or act like, they come from the mid-1990s—with blocky text, ugly colors and a simple program guide interface—consumers increasingly expect to be able to navigate their programming choices in a variety of ways: through algorithmic recommendations; through curated playlists and recommendations; through browsing by genre, actor, or director; through voice and text search; indeed, through methods the FCC neither can nor should predict.

One implication of this is that a content creator has no way of knowing, down to the pixel, exactly how its programming will be displayed to a consumer, even on devices that are entirely controlled by an MVPD and subject to expansive contracts between MVPDs and major programmers. While issues like channel placement may remain important, viewers have been moving away from ways of accessing content via organization methods that originate in FCC frequency allocations. The traditional channel line-up remains important as a baseline, universal way of referring to programming, but it is growing less important as a means of browsing and discovery.

But this does not mean that content display is a free-for-all: Even in a world where viewers access programming via more fluid and modern interfaces on competitive devices, MVPDs and programmers will still have the ability to affect how programming is displayed. First, the channel lineup, discussed above, will be passed directly to competitive devices, which can offer that method of access to content to viewers alongside other methods. But perhaps more importantly, competitive app and device makers will only have access to the content *and metadata* they are provided via the open standard. Program titles, ratings, production information, actors, descriptions, and ratings will be set by programmers and MVPDs, not competitors. To ensure, for example, that an adult-oriented program is not displayed while a device is in "Kids' Mode," or that sports programming is displayed when a viewer is searching for it, a programmer need merely ensure that the metadata associated with such programming is complete and up to date—as programmers and MVPDs largely already do. Additionally, the FCC's proposal is consistent with requirements from the open standards bodies that MVPDs will support that go further to ensure that devices and apps react appropriately to metadata. In general, competitors seek only parity with MVPDs when it comes to accessing a viewer's subscription—consistent rules of the road, applicable to all MVPDs, that lay the groundwork for a competitive marketplace.

2. Opening Up App and Device Competition Will Decrease Infringement

The FCC's proposal to allow MVPD subscribers to access their paid video subscriptions on the device, and with the apps of their choice will benefit copyright holders by reducing the incentives for infringement and increasing the demand for lawful content.

People unlawfully obtain copies of copyrighted material for a number of reasons—cost, convenience, availability, and flexibility among them. While these factors do not *excuse* unlawful behavior, a pragmatic approach to combating infringement should be cognizant of them, and address them when possible, instead of focusing solely on enforcement, litigation, creating new liability for intermediaries, and attempts to excessively lock down networks and devices. Device and app competition addresses this demand side of infringement, by making lawful, paid-for video programming cheaper and/or more convenient for viewers to access than ever before.[66]

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[66] A few content creators have expressed concern that a more open device market will make it easier for consumers to access unlawful material. *See* Kate Forscey, *Zombies, Pirates, and Why the Latest Copyright Fray Over Set-Top Box Undermines Itself*, Public Knowledge (April 13, 2016), https://www.publicknowledge.org/news-blog/blogs/zombies-pirates-and-why-

Here, the music industry provides a salutary example. The single most effective counter to music piracy has been the rise of lawful streaming services (both paid and ad-supported). Many listeners who, for various reasons, found piracy a more compelling alternative to purchasing physical compact discs moved to lawful options as they became available. But this did not involve requiring customers to use particular devices—Spotify is not only available on particular devices or brands of mobile phone. Rather, bringing lawful content to listeners and making it easy for them to access it has encouraged more and more users to enter the legitimate music ecosystem, to the extent that streaming now comprises the majority of the music industry's revenue.[67]

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the-latest-copyright-fray-over-set-top-box-undermines-itself. But this fear is exaggerated, since the FCC's proposal makes it simpler for viewers to access *lawful* content. A person who is determined to access content from unlawful sources can do so today, on devices such as PCs that do not currently have easy access to lawful MVPD programming. The FCC's proposal makes it easier and more appealing for people to pay for programming, which would reduce infringement, not increase it. It defies logic to suggest that giving viewers more accessible and convenient lawful options would give them more incentive or ability to infringe. The FCC should give little weight to fears based on little more than a generalized dislike of modern computing devices or the Internet.

Additionally, the kinds of devices envisioned by some pessimists could exist today, but do not. Opponents of competition offer no rationale as to why, given their assumptions, a consumer can't just walk into a store and purchase a TV-connected "pirate box" today. Infringement is generally inconvenient, appealing to people with more time than money. It often requires infringers to master arcane software such as the BitTorrent protocol, access ever-changing websites ridden with malware and pornography, and so on. These things are often simply not possible on a TV-connected device controlled with a simple remote control, or with a mobile app.

Finally, some critics simply misunderstand the incentives of app and device makers. Giving them lawful access to MVPD programming will cause them to "buy in" to the MVPD ecosystem. Their fortunes will rise and fall along with MVPDs, not be in opposition to them. Companies whose products are valuable precisely because MVPD programming is valuable are unlikely to take steps to undermine that business model.

[67] Charlotte Hassan, *Streaming: The Music Industry's Largest Revenue Generator*, Digital Music News (March 22, 2016), http://www.digitalmusicnews.com/2016/03/22/streaming-revenue-music-industrys-largest-generator.

a) Cost

The FCC's proposal will making it cheaper for viewers to access MVPD programming, by eliminating the requirement that they use MVPD-supplied equipment on each television they want to use. These cost savings will reduce the overall cost of accessing copyrighted programming without reducing the amount of money actually paid to creators. This decreases one of the perceived advantages of infringement, making it more likely that viewers will pay for an MVPD subscription.

b) Convenience

At times, unlawful sources of content are simply easier to use than lawful ones, which incentivizes some people to engage in infringing behavior. Device and app competition will lessen this. An open app and device market will incentive technologists to compete with each other to create better and more accessible user experiences—currently, MVPD-supplied devices and apps face little or no competition in this regard, so competitive forces prevent those products from improving.

c) Availability

Much video programming is not available at all online, or on the devices people want to use to watch TV. Additionally, much programming that is available online is not available via MVPDs. This means that there are some viewers who pick one or the other—which means that programming carried by other distributors is, to them, unavailable. The FCC's proposal will empower technologists to change that, by creating integrated apps and devices that allow people to watch MVPD programming alongside MVPD programming. A viewer who is able to access more sources of lawful programming in this way is less likely to turn to illicit sources.

d) Flexibility

Consumers want to watch video programming on the device and time of their choice. A competitive market is more likely to bring consumers these options than the monopoly MVPD model. For example, a competitive device maker may be more likely to enable viewers to exercise their judicially-recognized fair use rights to time- and device-shift recorded programming. Viewers who are able to lawfully interact with their programming in this way are less likely to turn to infringement.

Additionally, a more open device market will increase competition among video services themselves, including competition between MVPDs and over-the-top video providers. A market of this kind is more likely to give viewers access to programming in packages and formats tailored to their interests than the market as it stands today.

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In short, opening up MVPD programming to device and app competition will increase a consumer's reason to buy from lawful sources while decreasing existing incentives to turn to infringement. This is a win both for viewers and creators, and a market that allows people to lawfully access and use the content they pay for is likely to increase the general respect for and support of copyright law.

3. The FCC's Proposal Allows for Content Protection Technologies

The FCC's proposal specifically envisions that open standards bodies will consider content protection issues among other matters. In general, while the FCC should not set copyright policy, industry standards that are developed in consultation between technology companies, content companies, consumer groups, and other interests are more likely to respect the balance of copyright than rules imposed unilaterally by a government agency, or trade groups representing certain major content producers.

Specifically, this means that the open standards that MVPDs end up supporting are likely to have baked in a number of technologies and protocols that competitive device and app makers must respect with regard to the treatment of content. Devices that are not compliant will have no access to MVPD programming, and devices that become non-compliant risk having their access to MVPD programming revoked. This is not dissimilar to the content protection protocols that are part of CableCARD, which has not been a major vector for infringement. Given that the MVPD and content industries themselves already uses technologies similar to those described by proponents of competitive apps and devices,[68] this issue should not be an obstacle to the Commission's proposal.

In candor, Public Knowledge believes that universal principles of copyright law such as secondary liability are enough to ensure that the legitimate interests of copyright owners are protected, and that technologies that limit consumers' ability to make lawful uses of content can carry unintended social costs. But content protection technologies that are arrived at through a collaborative, inclusive process are at least *less* concerning, and may be acceptable[69] if the benefit is a more open and competitive marketplace for devices and apps that can access MVPD programming.

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The Commission should be confident that moving forward with its proposal will benefit content creators. It will open up new avenues for them to distribute their programming, giving them new ways to control or influence its presentation, promotion, and display. Without compelling programming, device and app competition would be of little interest to viewers, and

[68] *See* Letter from Consumer Video Choice Coalition to Marlene H. Dortch Secretary, FCC, in MB Docket No. 15-64 (Dec. 18, 2015).

[69] Particularly if coupled with other reforms, such as to Section 1201 of the Copyright Act or the Copyright Office's triennial review process.

the Commission should consider how to protect their legitimate interests in ways that are compatible with an open and competitive market that respects consumer choice.

IV. The Commission Should Adopt Policies to Ensure the Quick and Complete Implementation of its Proposal

A. The Commission Should Ensure that MVPDs Cannot Use Billing and Cross Subsidization Techniques to Undermine a Competitive Market

The Commission has proposed that MVPDs should have flexibility in choosing precisely how to comply with its requirements. This makes sense, given the technological diversity of MVPD technologies. However, this flexibility is not an invitation for MVPDs to actively undermine a competitive market, by engaging in billing or other behaviors that would discourage viewers from exercising their legal rights to use competitive devices.

The Commission has additional statutory authority to take action in this regard. Section 629 itself, for example, requires that the Commission permit MVPDs to continue to offer their own navigation devices—but it also requires that the Commission ensure that MVPD-supplied devices are not cross-subsidized by the MVPD subscription itself, which would put competitive apps and devices at a disadvantage.[70] This means that subscribers should save money by choosing a competitive alternative, instead of users of competitive devices subsidizing subscribers who choose to use first-party options.

Additionally, the best way for the Commission to ensure the success of its efforts is not only to prevent unfair cross-subsidization, but unfair billing practices generally. Specifically, an MVPD who chooses to use in-home equipment of some kind to allow for competitive

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[70] 47 U.S.C. § 549(a) (The FCC "shall not prohibit any multichannel video programming distributor from also offering converter boxes, interactive communications equipment, and other equipment used by consumers to access multichannel video programming and other services offered over multichannel video programming systems, to consumers, **if the system operator's charges to consumers for such devices and equipment are separately stated and not subsidized by charges for any such service**.") (emphasis added).

compatibility should not be permitted to charge its subscribers extra for this. This would be consistent with the current practice under CableCARD. Under CableCARD, cable companies are specifically prohibited from charging their customers simply for the right to use their own devices.[71] They can charge for CableCARDs themselves—but CableCARDs are specialized equipment that must be installed, sometimes by an expert installer, directly inside a competitive device. There is no direct analogy to CableCARDs in any reasonable implementation of the FCC's current proposal, which relies on in-home networking, rather than a specific hardware interface. Additionally, CableCARD, whatever its drawbacks, was a somewhat uniform system. But under the current, more flexible approach, MVPDs will be able to determine exactly what equipment, if any, to deploy. Allowing them to both determine what equipment to use and how much to charge for it gives them the ability to undermine competition using economic means.

B. Continued CableCARD Support Remains Important

The purpose of the Commission's current efforts is to allow viewers and competitors to eventually move away from the less-than-successful CableCARD technology for competitive devices. However, the Commission must ensure a smooth transition for the viewers and other interests who currently use CableCARD. First, cable companies should be required to support CableCARD until they begin supporting a successor—there should be no gap between one system and the next, which could be exploited by cable companies to move viewers who currently use a competitive device to a proprietary solution. Second, even after cable companies begin supporting a new open standard, they should continue to support legacy devices for as long as it is technically and economically feasible. While it may be reasonable for a cable company to not support *new* CableCARD devices or installations after it begins supporting a new standard

[71] 47 C.F.R. § 76.1205(b)(5)(C).

for competitive app and device compatibility, existing CableCARD users should not be forced to stop using the devices that work for them.

C. It Would Not Be Inconsistent with the Commission's Goals to Grant Extra Flexibility to Small MVPDs

The Commission should ensure that ultimately all MVPD subscribers can benefit from a competitive app and device market. However, it is apparent that smaller MVPDs have fewer resources and generally find it more challenging to comply with new regulatory requirements. The Commission can address these issues in a number of ways. Primarily, even while granting small MVPDs certain flexibility, the Commission's approach should be guided by an understanding that a competitive app and device market will significantly benefit smaller and new entrant MVPDs. In the current marketplace, such MVPDs must either develop their own costly technology, license products that don't fit their needs or offer them the ability to customize their own devices as they might like, or even use technologies developed for or by larger MVPDs, especially larger cable companies. In a competitive app and device market a smaller MVPD will need to do nothing more than provide access to the three information flows according to an open standard, and allow their customers to supply their own equipment and apps from the competitive market. This will save smaller MVPDs time and money while providing their customers with a better experience. In fact, the Commission's default or "safe harbor" standard and associated technologies should be available for smaller MVPDs to implement in a relatively "turn-key" manner, which should ease their implementation of the Commission's requirements.

Even so, smaller MVPDs may need additional time to analyze the Commission's new rules and determine how to best comply. Understanding their special needs, Public Knowledge would not be opposed the the Commission granting smaller MVPDs extra time or greater flexibility in other ways when it comes to complying with the Commission's new rules.

D. The Commission Should Adopt a Default Technology Standard

The Commission has chosen to allow MVPDs flexibility in choosing how to implement the requirements of its proposal. This approach has merit—however, it may be prudent for the Commission to also adopt a "default" or "safe harbor" standard, for a few reasons. First, MVPDs who fail to comply with the Commission's proposal and do not select an open standard by which to support competitive devices could be required to support this default standard. This will incentivize MVPDs to work in good faith on alternatives that meet the Commission's requirements that they might prefer, while assuring competitive device and app makers that they will be able to market their products to customers regardless of the outcome of this process. Furthermore, the Commission should avoid giving MVPDs any incentive to adopt intentionally non-uniform standards in an effort to subvert the regulations and avoid a competitive marketplace.

Additionally, an MVPD may find that the default standard is entirely suitable to its needs—indeed, it may want to implement it for its own proprietary devices. There is no need for MVPDs to reinvent the wheel—existing, off-the shelf technologies will allow MVPDs to provide the necessary information flows to competitive devices and apps while maintaining the security and integrity of their service. In fact, the specific technology proposal that Public Knowledge believes would meet the needs of the FCC, competitors, and all MVPDs, which was described in an *ex parte* filing last year,[72] is not intended to be a lowest-common denominator technology proposal but rather an option that all MVPDs should consider.

[72] Letter from John Bergmayer, Senior Staff Attorney, Public Knowledge, to Marlene H. Dortch, MB Docket No. 15-64, Attachment (Oct. 20, 2015).

V. Conclusion

For the above reasons, the Commission should move forward on its proposal to promote competition in the apps and devices subscribers use to watch MVPD programming, in ways that protect privacy, promote diversity and video competition, while ensuring the rights of creators are protected.

Respectfully submitted,

/s John Bergmayer
Senior Staff Attorney
PUBLIC KNOWLEDGE

22 April 2016